

APPENDIX C

CHECKLIST FOR DESIGN DOCUMENT

1.0 DESIGN ANALYSIS

The design analysis should be performed in accordance with Department of the Army U.S. Army Corp and Engineers publication "Engineer and Design--Design Analyses," Regulation ER 1110-345-700. For AOP applications, the complete design analyses should include, but not be limited to the following: (some of the calculations may be carried out by the vendor)

1.1 PROCESS DESCRIPTION

- 1.1.1 Wastewater Characteristics
- 1.1.2 Pretreatment Requirements
- 1.1.3 Performance Requirements
- 1.1.4 Description of Equipment and Controls

1.2 CALCULATIONS

- 1.2.1 Mass Balance Calculations
- 1.2.2 Equipment Sizing
- 1.2.3 Oxidants and/or Chemical Feed

1.3 RECORDS

- 1.3.1 Correspondence
- 1.3.2 Manufacturers Literature
- 1.3.3 Environmental Criteria

2.0 PLANS

2.1 PROCESS FLOW DIAGRAMS (LIQUID AND SOLID)

2.2 EQUIPMENT LAYOUT PLAN

2.3 PROCESS & INSTRUMENTATION DIAGRAMS (CONTROL SCHEMATICS)

2.4 PIPING AND PLUMBING PLANS. SECTIONS. AND DETAILS

2.5 CONNECTION DETAILS

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2.6 COORDINATION WITH OTHER DISCIPLINES

- 2.6.1 General Plans (Drawing Index, Legend and General Notes, Abbreviations)
- 2.6.2 Structural Plans (Concrete Slab and Foundation Plans)
- 2.6.3 Architectural Plans (Interior and Exterior Elevations)
- 2.6.4 Mechanical Plans (Hydraulic Profiles of Liquids and Solids, HVAC Plans and Details)
- 2.6.5 Electric Plans (Line Diagrams, Power and Control Plans)

3.0 SPECIFICATIONS

3.1 EQUIPMENT SIZING (BASED ON DESIGN ANALYSIS CALCULATIONS)

3.2 AOP COMPONENTS

- 3.2.1 Accessories (Coordinate with Other Specification)
- 3.2.2 Ozonator Specifications
- 3.2.3 UV Lamp Specifications
- 3.2.4 Chemical Feed Systems Specifications
- 3.2.5 Compressed Air (Plumbing) Specifications
- 3.2.6 Oxidants and or Chemical Storage Tank Specifications.

3.3 SPECIAL MATERIAL REQUIREMENTS (COORDINATE WITH ALL GUIDE SPECIFICATIONS)

3.4 RELATED SPECIFICATIONS

- 3.4.1 Electric Work Specification
- 3.4.2 Plumbing and Piping Specifications
- 3.4.3 Installation (Concrete and Welding) Specifications

4.0 OPERATION & MAINTENANCE MANUALS

4.1 O&M PROCEDURES

- 4.1.1 Start-up Procedures
- 4.1.2 Operating Procedures
- 4.1.3 Shutdown Procedures
- 4.1.4 Maintenance Schedule

4.2 SPECIFICATIONS AND PLANS

4.2.1 Equipment Specifications (Manufacturer*s Name, Model Number, Size/ Dimension, Description of Operating Functions)

4.2.2 Equipment Plans (Piping, Valve, Wiring, and Control Layouts)

4.3 EQUIPMENT CATALOGS

4.4 SERVICE REQUIREMENTS

4.4.1 Utility Requirements (Air, Electric Waste)

4.4.2 Maintenance Instructions (Routine Procedures, Breakdowns and Repairs)

4.4.3 Troubleshooting Guide